

Declaration under 37 C.F.R. §1.132
Appl. No. 09/943,610

APR 28 2004
ExxonMobil Ref. No. 2001B081

OFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/943,610	Confirmation No. 9649
Applicants	:	Luc Martens et al.	
Filed	:	August 30, 2001	
TC/A.U.	:	1764	
Examiner	:	Thuan D. Dang	
Docket No.	:	2001B081	
Customer No.	:	23455	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

Honorable Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

I, LUC ROGER MARC MARTENS, hereby declare as follows:

1. I reside at Rooststraat 18, B-1860 Meise Belgium.
2. I am a named inventor on U.S. Patent Application Serial No. 09/943,610 (the '610 application) entitled "Two Catalyst Process for Making Olefins," filed on August 30, 2001.
3. I received a Ph.D. from Catholic University of Leuven (Belgium) in the field of Surface Science and Catalysis on November 5, 1987.
4. I have worked in the catalysis field for approximately 21 years and in the field of methanol to olefin catalysis since 1997.
5. I have reviewed the '610 application, the Office Action dated January 22, 2004, and the references relied upon therein including U.S. Patent No. 6,048,916 to Brown et al. and U.S. Patent No. 5,026,936 to Leyshon et al.
6. In Example 2 of the present application, an oxygenate contacted a P-ZSM-5 catalyst at about 560°C. The product was collected and a portion of it was analyzed to determine its

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content. The composition is disclosed in Column 2 of Table 2 on page 19 of the application. Then, a portion of the product was contacted under the same reaction conditions as above, except that it was contacted with a second catalyst comprising ZSM-35. The astounding results are reported in Column 3 of Table 3, which is reproduced below.

Table 2

Product Formed	Yield of Product From Contact with P-ZSM-5 (wt. %)	Yield of Product From Contact With ZSM-35 (wt. %)
CH ₄	1	2
C ₂ =	10	32
C ₃ =	40	44
C ₄ =	27	5
C ₅ =	10	3
Aromatics	8	11
Other	4	3
C ₂ = + C ₃ =	50	76

7. The experimental data disclosed in Table 2, above, indicates that the process of the claimed invention provides a significant increase in C₂= and C₃= yield at the expense of C₄= and C₅= formed in the first contacting with the ZSM-5 catalyst. In fact, the final product showed more than a 200% increase in ethylene yield over the product of the first contacting step.

8. One of ordinary skill in the art would not expect that the second contacting step would provide such a high yield of ethylene, and the results shown in Table 2 reveal a highly surprising and unexpected result.

9. Additionally, it should be pointed out that one of ordinary skill in the art would expect that the experimental conditions implemented in Example 2 of the '610 application are not critical to the invention. For example, one would expect that the surprising results achieved with methanol as the feedstock would also be obtained with similar oxygenates, such as dimethyl ether.

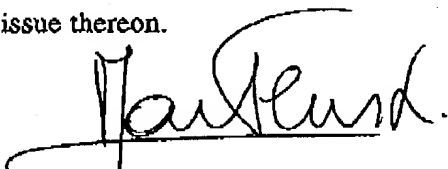
10. Additionally, ZSM-35 is a ten-member ring zeolite catalyst. All of the other second catalysts listed in the claims are also ten-member ring zeolite catalysts. Based on the disclosure in the '610 application, one would expect that these other second catalysts would also provide

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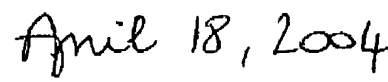
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desirable yields of ethylene and propylene. One of ordinary skill in the art would not expect that the invention required ZSM-35 as the second catalyst.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issue thereon.



Luc Martens



Date

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